Information Bulletin

Grade 6 Mathematics
1996-97

Alberta
EDUCATION

This document was written primarily for:

Students	✓
Teachers	✓
Administrators	✓
Parents	
General Audience	
Others	✓ Superintendents

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This bulletin contains general information about the Provincial Student Assessment program and information specific to the Grade 6 Mathematics Achievement Test. **This bulletin replaces all previous bulletins.**

October 1996

Contents

Looking Back: Highlights of 1996
Grade 6 Mathematics

This information provides teachers, school administrators, and the public with an overview of the results for the June 1996 Grade 6 Mathematics provincial assessment. It complements the detailed school and jurisdiction reports.

Acceptable Standard

Standard of Excellence
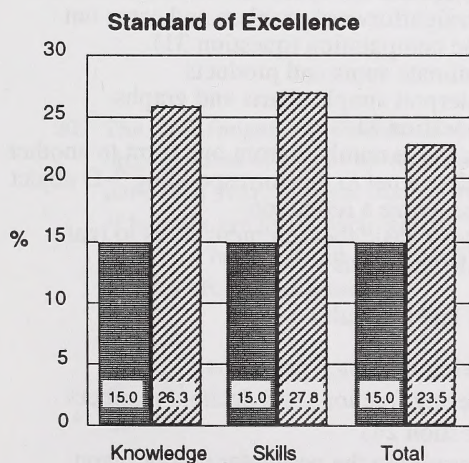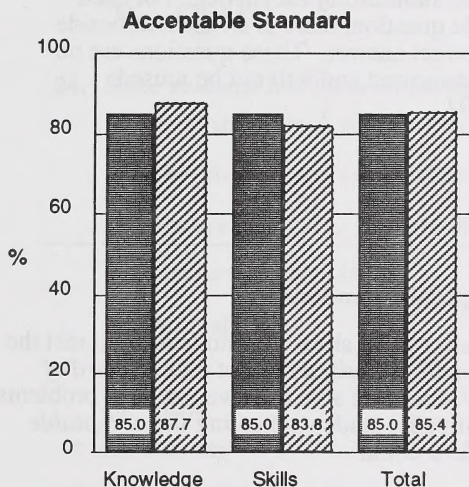
■ Achievement Standards*

▨ Actual Results**

*the percentage of students in the province expected to meet the acceptable standard and the standard of excellence

**the percentage of students in the province who met the standards (based on those who wrote)

Who Wrote the Test?

All students registered in Grade 6 were expected to write the 1996 Mathematics Achievement Test. A total of 38 379 students completed the English version of the June 1996 test. In 1996, only a small proportion of students in Grade 6 did not write the test: 2.2% were absent and 2.9% were excused from writing by their superintendent.

What Was the Test Like?

The test had 50 multiple-choice questions in five content areas: Numeration, Operations and Properties, Measurement, Geometry, and Data Management. The questions were classified in two reporting categories: Knowledge and Skills. Students recorded their responses to questions on a separate answer sheet.

How Well Did Students Do?

As shown by the graphs, the number of students meeting the *acceptable standard* and the number of students meeting the *standard of excellence* on the total test was higher than expected. This is especially impressive given that a high proportion of Grade 6 students wrote the test.

In 12.3% of the schools, the percent of students meeting the *acceptable standard* was significantly above expectations for the province. In 71.9% of the schools, the percentage of students meeting the *acceptable standard* was not significantly different from provincial expectations. In 15.8% of schools, the percentage of students meeting the *acceptable standard* was significantly below provincial expectations. Schools where fewer than five students wrote the Grade 6 test are not included in these school calculations.

1

The results presented here are based on scores achieved by all students writing in English. Results for students writing in French will be reported separately. Assessment Specialist observations and commentary follow.

Has Achievement Changed Since Last Year?

A study of changes in achievement was conducted as part of the provincial assessment. Results indicate that math achievement in 1996 is slightly higher than in 1995.

Commentary and Sample Questions from Grade 6 Mathematics Achievement Test 1996

Sample questions from the test and accompanying discussion are provided to highlight the strengths and weaknesses of students meeting the *acceptable standard* and the *standard of excellence*. For each sample question, there is an asterisk beside the correct answer. These questions are no longer secured and will not be reused in 1997.

Use the following chart to answer question 21.

NUMBER OR ANIMALS OBSERVED

Student	Birds	Fur-Bearing Animals	Total
Sandy	47	69	116
John	65	38	103
Sheila	76	41	117

21. The park ranger asked Sheila a question. Sheila looked at the chart and answered the question using the number sentence 65 – 47 = 18. What question was Sheila asked?

   A. How many more fur-bearing animals did you see than John saw?

   B. How many more fur-bearing animals did Sandy see than John saw?

 * C. How many more birds did John see than Sandy saw?

   D. How many more birds did you see than Sandy saw?

Acceptable Standard*

Overall, results show that students who met the *acceptable standard* but not the *standard of excellence* were able to solve one-step problems. Specifically, students meeting the *acceptable standard* could

- determine the operation needed to solve a straightforward problem and carry out the computation (question 31)
- estimate sums and products
- interpret simple charts and graphs (question 21)
- translate numbers from one form to another
- relate a net to the corresponding 3-D object
- recognize a reflection
- apply basic measurement skills to real-life situations

They had difficulty

- solving multistep problems
- ordering fractions and decimal numbers (question 24)
- determining the perimeter of a polygon
- converting measurements from one unit to another

Question 21 required students to interpret a chart to determine the meaning of a number sentence. Students meeting the *acceptable standard* were very successful with this question.

31. The masses of five of the buffalo are 600 kg, 580 kg, 540 kg, 660 kg, and 420 kg. What is the average mass of these five buffalo?

    A.   420 kg
* B.   560 kg
    C.   595 kg
    D.   610 kg

Question 31 required students to determine an average. About 75% of students meeting the *acceptable standard* but not the *standard of excellence* answered this question correctly.

24. Some students had pizza for lunch in Banff. Michael ate $\frac{1}{2}$ of his pizza, Cliff ate $\frac{2}{5}$ of his pizza, David ate $\frac{3}{10}$ of his, and Patricia ate $\frac{3}{5}$ of hers. Who ate the greatest portion of pizza?

    A. Michael
    B. Cliff
    C. David
* D. Patricia

Question 24 required students to order fractions and find the largest. Only about 50% of the students meeting the *acceptable standard* but not the *standard of excellence* were able to answer this question correctly.

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20. The park ranger was concerned about the large number of elk hit by vehicles in the park each year. He said that an average of four elk are killed each month. At this rate, how many elk out of 120 would survive after eight months?

    A. 124
    B. 95
* C. 88
    D. 32

**Standard of Excellence**

Students meeting the *standard of excellence* had no difficulty with this assessment.

The following commentary highlights the skills and knowledge of students who met the *standard of excellence*.

Question 20 required students to apply understanding of average and solve a multistep problem. Over 90% of students meeting the *standard of excellence* could do this.
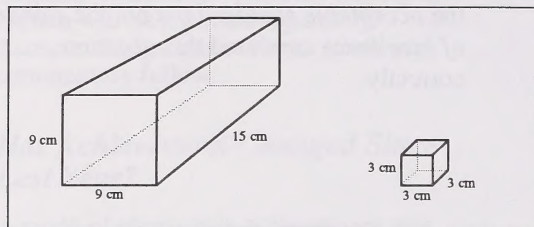
29. Stacy bought a block of fudge 9 cm × 9 cm × 15 cm and cut it into cubes 3 cm × 3 cm × 3 cm. How many cubes of this size did she have?

    A. 15

    B. 27

*   **C.** 45

    D. 81

Question 29 required students to determine a strategy to partition the volume of a prism. Students meeting the *standard of excellence* can do this.

Students who meet the *standard of excellence* were more successful in solving multistep and novel problems than other students. Specifically, students meeting this standard could
- order integers
- apply operations in solving problems (question 20)
- apply place value concepts
- identify a pattern to solve a problem
- interpret, analyze, and accurately apply information from charts and graphs
- carry out calculations with measurements (question 29)

Reporting the Results

On August 23, 1996, each school jurisdiction received, electronically, a district report and individual school reports regarding their students' achievement, as well as guidelines for interpreting these results in relation to provincial standards.

To facilitate reflection on school programs, we expect that results will be shared with all school staff (not just teachers of grades 3, 6, and 9), as well as with parents and the community.

Two copies of an individual profile for each student will be sent to the school that the student will attend in September. We expect that the Parent Copy will be given to parents and the School Copy will remain with the student's record.

> All Achievement tests administered in 1993 and prior to 1993 are no longer secured.

Looking Ahead: What is Upcoming for 1997

General Information

The Provincial Student Assessment Program provides teachers, parents, students, school administrators, Alberta Education, and the public with information about what students know and can do in relation to provincial standards. Group results are reported at school, district, and provincial levels to improve learning opportunities for students.

The assessments are administered in two subject areas at Grade 3—language arts and mathematics—and in four subject areas at grades 6 and 9—language arts, mathematics, social studies, and science.

The assessments are based on provincial standards, which reflect important learnings in the subject areas listed above. Classroom teachers from across the province are extensively involved in developing and field testing the assessment instruments.

Administering the Assessments

Information about the nature of the provincial assessments as well as their administration to special needs students can be found in the *General Information Bulletin, Provincial Student Assessment Program,* which is mailed each fall to all superintendents and principals.

Schedule

The written-response component of English and French Language Arts will be administered during the last week of May. The machine-scorable component of all achievement tests will be administered during the last two weeks of June. Specific information regarding scheduling is provided in the current *General Information Bulletin, Provincial Student Assessment Program.*

To minimize any risks to security, we recommend that all students complete the test on the same day. Superintendents approve a local schedule for achievement test administration within the dates provided. Students who are absent when the tests are administered and who return to school by the end of the school year must write the tests upon their return. By scheduling the tests early in the administration period, most, if not all, absentees can be tested upon their return to school. The principal is responsible for ensuring the security of the tests.

The tests that will be administered each year are:

Grade 3
English Language Arts (*Part A: Writing* and *Part B: Reading*)
Mathematics (English and French forms)

Grade 6
English Language Arts (*Part A: Writing* and *Part B: Reading*)
Français 6e année (*Partie A: Production écrite* and *Partie B: Lecture*)
Mathematics (English and French forms)
Science (English and French forms)* see p. 6
Social Studies (English and French forms)

Grade 9
English Language Arts (*Part A: Writing* and *Part B: Reading*)
Français 9e année (*Partie A: Production écrite* and *Partie B: Lecture*)
Mathematics (English and French forms)
Science (English and French forms)
Social Studies (English and French forms)

Students in French Programs

All students in French programs must write English Language Arts, French Language Arts and French versions of other achievement tests if their language of instruction is french. Alberta Education will send a checklist to schools by January requesting an indication of how many English or French tests are required. These froms must be returned through jurisdiction offices by mid-February.

* Resources for the implementation of the revised Program of Studies for elementary science will not be available until the 1997–98 school year. Therefore, implementation of the revised Program of Studies for students in French programs is optional for the 1996–97 school year. Schools offering grade 6 science in French must decide which form of the science test they will write in June 1997. The choices are either the translated form of the 1996 Grade 6 Science Achievement Test based on the previous program of the 1997 Grade 6 Science Achievement Test based on the revised program. Schools offering Grade 6 Science in French must choose one form or the other for all students in Grade 6 writing in French.

Marking Achievement Tests Locally

Teachers will be able to mark the tests before returning them to Alberta Education. Teachers can use the results as part of an individual student's year-end assessment, as well as for planning instruction.

Performance Assessments

Performance assessments provide students with real-life tasks. These assessments address many of the learner expectations that cannot be easily measured using only paper and pencil strategies. These tasks have been developed by classroom teachers and are designed to model good classroom instruction and assessment practices.

The Student Evaluation Branch uses these tasks to collect a broader base of information about what students know and can do than achievement tests alone can provide. These assessments will be administered to a provincial sample of students in all subjects on a rotating basis. The following assessments will be given in 1997:

Grade 3
• informational book tasks in language arts

Grade 6
• social studies: inquiry into basic needs

Grade 9
• problem-solving and communication tasks in science

Standards: Curriculum, Assessment, Achievement

The move toward results-based curricula has re-emphasized the need for a clear delineation of standards and their purpose. All standards and all methods of setting standards require judgement.

> The process of setting a standard can only be as good as the judgements that go into it. The standard will depend on whose judgements are involved in the process. In this sense, all standards are subjective. Yet once a standard has been set, the decisions based on it can be made objectively. Instead of a separate set of judgements for each test-taker, you will have the same set of judgements applied to all test-takers. Standards cannot be objectively determined, but they can be objectively applied.[1]

Definitions

The Achievement Testing Program is directly concerned with three different but related standards. These provincial standards are curriculum standards, assessment standards, and achievement standards. Local targets are also described in this section.

- **Curriculum Standards** are the expected student learnings sequenced into grade levels. They include broad statements of knowledge, skills, and attitude expectations against which student performance is judged. These standards are established in the process of curriculum development and are found in the *Program of Studies* document produced for each subject.

- **Assessment Standards** are the criteria adopted for judging actual student achievement relative to curriculum standards. They are ultimately expressed and applied to test scores. They are derived from answers to questions such as: What scores must a student obtain or how many questions on a given test must a student answer correctly in order for his/her performance on the test to be judged as acceptable or excellent?

- **Achievement Standards** are judgements that specify what percentages of students are expected to achieve an acceptable and an excellent level of achievement in relation to each course of studies, i.e. to the relevant curriculum standards. It is important to point out that this judgement is not a prediction of the percentage of students who will actually achieve acceptable or excellent levels, but rather a specification of the percentage of students at a given grade or year in school who are *expected* to achieve the acceptable (85%) or excellent standard (15%). **The 85% of students expected to meet the acceptable standard includes those who meet the standard of excellence.** These standards apply to school, jurisdiction, and provincial performance.

- **Local targets** are goals set in schools/districts to focus plans for helping students learn what is expected by the provincial government. These local targets reflect the specific needs of students, the views of teachers, school administration, and the local community, and the resources available to provide learning opportunities for students.

Confirming Standards

Confirming standards is a process whereby judgements about students' performance on the assessment are made in relation to provincial standards. For more information on confirming standards procedures, refer to Appendix A of the *Achievement Testing Program Provincial Report, June 1993 Administration*. For information on the selection of teachers for participation in the confirming standards process, refer to the current *General Information Bulletin, Provincial Student Assessment Program.*

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[1] Passing Scores; Samuel A. Livingston, Michael J. Zieky; Educational Testing Service, 1982.

Purpose of Assessment Standards

The provincial standards are the basis upon which we assess how well students have learned mathematics by the end of Grade 6. These standards reflect the essential learnings that all Alberta students are expected to achieve. Provincial standards are useful, therefore, for assessing Grade 6 students in all types of school programs—public, private, and home education. By comparing actual results with provincial standards, decisions can be made about whether achievement is, in fact, "good enough."

Description of the Mathematics Assessment Standards

The following statements describe what is expected of Grade 6 students who are meeting the *acceptable standard* or the *standard of excellence* on independent work at the end of the Grade 6 Mathematics program. The statements represent the standards against which student achievement will be measured.

Acceptable Standard

Students who meet the *acceptable standard* in Grade 6 Mathematics are expected to have a basic understanding of mathematical concepts and related procedural knowledge. They are expected to be able to demonstrate their understanding in concrete, pictorial, and symbolic modes and be able to translate from one mode to another. For example, students meeting the *acceptable standard* should know that the solution to the number sentence $42 \times 2 = \square$ is 84 and be able to demonstrate their understanding in concrete and pictorial ways. They are able to write related number sentences and verify them using manipulatives and diagrams.

To meet the *acceptable standard*, students are expected to communicate about mathematical situations in an understandable way using objects, diagrams, and appropriate everyday and mathematical terms. They are expected to understand mathematical questions presented with objects, diagrams, or symbols in everyday and school contexts.

Students meeting the *acceptable standard* are expected to perform the mathematical operations and procedures that are fundamental to mathematics in Grade 6 and apply what they know in solving routine problems in familiar settings. They are able to describe the steps they used to solve a particular problem and to defend their solution to the problem.

The expectation is that students meeting the *acceptable standard* have a positive attitude about mathematics and a sense of personal competence in using mathematics in their daily lives. They are able to demonstrate confidence when using common mathematical procedures and when applying problem-solving strategies in familiar settings.

Standard of Excellence

Students who meet the *standard of excellence* in Grade 6 Mathematics are expected to have a superior understanding of mathematical concepts and related procedural knowledge. They are consistently able to demonstrate their understanding in concrete, pictorial, and symbolic modes, and easily translate from one mode to another. They are able to create problem situations to illustrate concepts and to analyze and explain relationships among concepts. For example, students meeting the *standard of excellence* should be able to write all number sentences related to $42 \times 2 = \square$, justify them using manipulatives and diagrams, and create problem situations to exemplify the relationship. They should be able to compare the set of related sentences with sentences showing other operations on the numbers.

To meet the *standard of excellence*, students are expected to verbalize and write about mathematical situations clearly, using correct technical terms. They are expected to understand mathematical questions presented with objects, diagrams, or symbols in both common and unusual contexts.

Students meeting the *standard of excellence* are expected to perform the mathematical operations and procedures that are fundamental to mathematics in Grade 6 and to be able to apply what they know in solving and creating novel problems. They are able to clearly describe the steps that they or other students used to solve a particular problem and can suggest alternative procedures and/or solutions.

Students meeting the *standard of excellence* should have a positive attitude toward mathematics and show confidence in performing mathematical tasks. They are expected to be self-motivated risk-takers who persevere when solving novel problems. They take initiative in trying new methods and are creative in their approach to problem solving.

Grade 6 Mathematics Assessment

General Description

- *Multiple-choice component*—completed each year by all Grade 6 students in the province.

- *Timed computation tests*—completed in June 1995 by a provincial sample of Grade 6 students. A master copy is forwarded to all schools for those teachers who wish to administer timed computation tests. This is for optional use only.

Multiple-Choice Component

The multiple-choice component consists of 50 questions integrated in narrative themes. The assessment is designed to be completed in 60 minutes. However, additional time of up to 30 minutes may be provided to allow all students to finish.

The blueprint for the multiple-choice component is on page 10 of this bulletin and is followed by practice questions that teachers can use with students to help them prepare for the test.

Students will record answers to questions on the answer sheet provided (see page 20 for practice answer sheet).

Students will require HB pencils, rulers, and erasers. They may also need scrap paper.

Students may use manipulative materials and calculators when completing the multiple-choice component.

The practice questions on pages 12–20 appeared on the June 1996 achievement test (all other questions on this test are secured). These released questions, along with questions from previous bulletins, can be used to prepare students for the current achievement test.

Reporting Categories Indicators

The following points briefly highlight the learnings for each reporting category.

Knowledge
- recalls facts, concepts, terminology
- knows number facts
- recognizes place value
- knows the procedure for algorithms, computations
- knows the procedure for constructions, measurements
- knows how to use calculators/computers
- knows mental computation, estimation strategies

Skills
- represents basic mathematical concepts in concrete, pictorial, and /or symbolic modes
- applies a mathematical concept in a variety of familiar situations
- creates new problem situations that exemplify a concept
- judges reasonableness of answers
- justifies answers
- communicates why and when certain strategies are appropriate
- demonstrates relationships among numbers, operations, number forms, and modes of representation
- demonstrates relationships among geometric forms
- applies mathematical knowledge to solve problems
- uses a variety of problem-solving strategies
- applies mathematical concepts in new situations

Blueprint

The blueprint for mathematics shows the reporting categories under which questions are classified. The number of questions in each category is approximate.

General Learner Expectation GLE*	Knowledge	Skills	Total Ques.(%)
Understands number relationships from thousandths to billions, including ratios and integers	3	5	8(16)
Understands proper fraction relationships and relationship of halves, thirds, quarters, and fifths to decimals	2	2	4 (8)
Understands operations with whole numbers and decimals, and chooses appropriate calculation methods	5	9	14(28)
Measures, calculates and/or compares time, length, capacity, mass, perimeter, area, volume, and angles	3	6	9(18)
Identifies and draws slides, flips, and turns of two-dimensional figures and circles using appropriate terms	3	4	7(14)
Collects, displays, and interprets data from a variety of sources and compares experimental results to theory	2	6	8(16)
Total Questions (%)	18(36)	32(64)	50(100)

* from *Mathematics Interim Program of Studies, 1994*

Practice Questions

The following suggestions are to help teachers prepare students for the Mathematics 6 Achievement Test.

Familiarize your students with the format of the multiple-choice component of the test and the kinds of questions that will appear on it by having them work through the practice questions. A practice answer sheet is provided.

Establish an environment suitable for test taking and allow students to complete the practice questions, recording answers on the practice answer sheet.

When the practice questions are completed and marked, discuss with the class the time needed to do the work and the accuracy of the work, and address any specific concerns raised by students.

This collection of questions does not represent the test emphasis as presented in the blueprint.

Ms. Thompson's Grade 6 class at Prairieview School has planned a year-end field trip. The 25 students, Ms. Thompson, and 4 supervisors are looking forward to visiting mountain park vacation spots on their trip.

Now, join the class and their supervisors on the trip. Help them solve the real-life problems they experience.

Getting Ready

The students and their teacher, Ms. Thompson, did all the planning and prepared equipment for the trip.

The first three questions are about getting ready.

1. Ms. Thompson suggested that every student bring $55 for spending money. Allison made $12 mowing lawns and $6 babysitting. She also received $10 for her birthday. How much more money did Allison need?

   A. $27
   B. $33
   C. $43
   D. $47

The class prepared a map to show the distances for the trip.
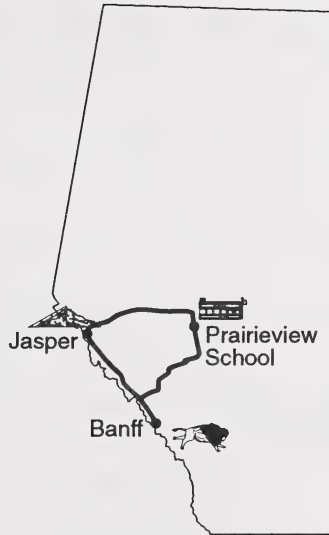
Route	Distance
Prairieview to Jasper	309 km
Jasper to Banff	287 km
Banff to Prairieview	367 km

2. According to the chart, how much farther is it from Prairieview School to Banff than from Prairieview School to Jasper?

A. 52 km
B. 58 km
C. 62 km
D. 66 km

3. The class will be travelling from Prairieview School to Jasper and then to Banff. They will go directly home from Banff. **About** how far will they travel on their trip?

A. 1000 km
B. 900 km
C. 800 km
D. 700 km

The Trip

The students enjoyed their trip in the mountains. The next fourteen questions are about the trip.

4. Judy stacked 12 identical juice cans on top of one another. The height measured 177.6 cm. How many centimetres high is each juice can?

    A.   17.6 cm

    B.   14.8 cm

    C.   9.8 cm

    D.   8.6 cm

5. At a campfire talk in the evening, the park ranger showed the class a picture of two bear cubs. He said that, together, the bear cubs have a mass of 135 kg. If one cub's mass is 5 kg more than the other cub's mass, what is the mass of each cub?

    A.   130 kg, 5 kg

    B.   65 kg, 70 kg

    C.   67 kg, 68 kg

    D.   65 kg, 60 kg

6. The park ranger was concerned about the large number of elk hit by vehicles in the park each year. He said that an average of four elk are killed each month. At this rate, how many elk out of 120 would survive after eight months?

    A.   124

    B.   95

    C.   88

    D.   32

NUMBER OF ANIMALS OBSERVED

Student	Birds	Fur-Bearing Animals	Total
Sandy	47	69	116
John	65	38	103
Sheila	76	41	117

7. The park ranger asked Sheila a question. Sheila looked at the chart and answered the question using the number sentence $65 - 47 = 18$. What question was Sheila asked?

A. How many more fur-bearing animals did you see than John saw?

B. How many more fur-bearing animals did Sandy see than John saw?

C. How many more birds did John see than Sandy saw?

D. How many more birds did you see than Sandy saw?

On the way to Banff, the bus crossed a railroad track.

Trans-Canada Highway

Railroad Track

To
Banff
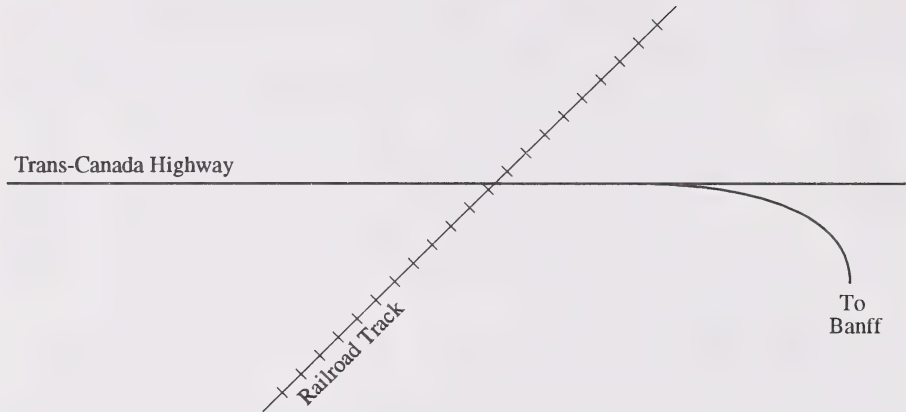
8. On the map, the Trans-Canada Highway and the railroad track are

A. vertical
B. parallel
C. intersecting
D. perpendicular

9. Some students had pizza for lunch in Banff. Michael ate $\frac{1}{2}$ of his pizza, Cliff ate $\frac{2}{5}$ of his pizza, David ate $\frac{3}{10}$ of his, and Patricia ate $\frac{3}{5}$ of hers. Who ate the greatest portion of pizza?

A. Michael
B. Cliff
C. David
D. Patricia

While waiting for a museum tour to start, some of the students played on the stairs of a building in Banff. From **above**, the stairs look like this:
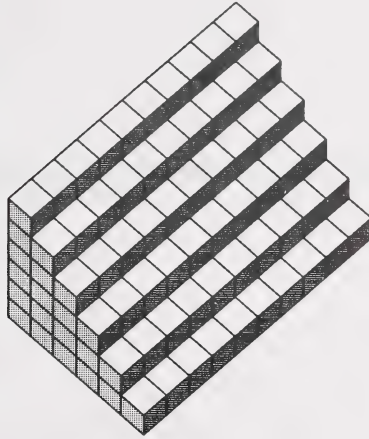
10. If the stairs were made by stacking layers of blocks, how many blocks were used in these stairs?

    A.   60

    B.   70

    C.   120

    D.   210

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11. All 25 students went inside the museum. The tickets they bought were numbered beginning with 211. People with even-numbered tickets were given a free poster. How many students received a poster?

    A.   11

    B.   12

    C.   13

    D.   25

12. Jamie had a lot of change. If she had 13 dimes, 6 nickels, 24 pennies, 9 quarters, and 6 loonies, what was the total value of the coins?

    A. $9.09

    B. $10.09

    C. $10.90

    D. $19.90

Use the following diagram to answer question 13.
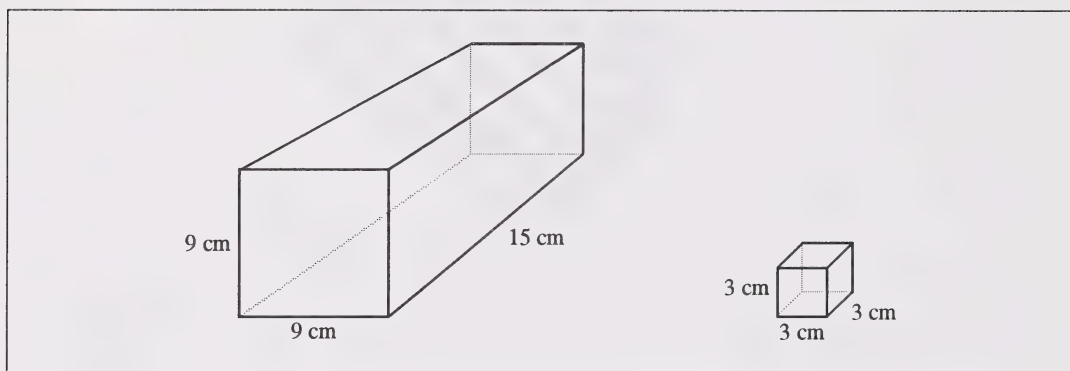
13. Stacy bought a block of fudge 9 cm × 9 cm × 15 cm and cut it into cubes 3 cm × 3 cm × 3 cm. How many cubes of this size did she have?

    A.   15

    B.   27

    C.   45

    D.   81

14. After leaving Banff, the bus stopped at the Buffalo Paddock. Park rangers were tagging and weighing the buffalo. The mass of one of the buffalo in the paddock is 639.75 kg. The digit in the tens place is

A. 3
B. 5
C. 7
D. 8

15. The masses of five of the buffalo are 600 kg, 580 kg, 540 kg, 660 kg, and 420 kg. What is the average mass of these five buffalo?

A. 420 kg
B. 560 kg
C. 595 kg
D. 610 kg

During the drive back to Prairieview, Ms. Thompson asked her class which part of the trip was their favourite. She made the following tally sheet:

Jasper Tramway	Maligne Canyon	Horseshoe Lake	Banff Park
|||	ҬҤҬ		||	ҬҤҬ ҬҤҬ	

16. Which was the second least popular place?

A. Jasper Tramway
B. Maligne Canyon
C. Horseshoe Lake
D. Banff Park

17. If all 25 students were polled, how many did **not** vote for a place listed on the tally sheet?

A. 2
B. 3
C. 5
D. 8

Practice Answer Sheet for Multiple-Choice Questions

MULTIPLE CHOICE
1 Ⓐ Ⓑ Ⓒ Ⓓ
2 Ⓐ Ⓑ Ⓒ Ⓓ
3 Ⓐ Ⓑ Ⓒ Ⓓ
4 Ⓐ Ⓑ Ⓒ Ⓓ
5 Ⓐ Ⓑ Ⓒ Ⓓ
6 Ⓐ Ⓑ Ⓒ Ⓓ
7 Ⓐ Ⓑ Ⓒ Ⓓ
8 Ⓐ Ⓑ Ⓒ Ⓓ
9 Ⓐ Ⓑ Ⓒ Ⓓ
10 Ⓐ Ⓑ Ⓒ Ⓓ
11 Ⓐ Ⓑ Ⓒ Ⓓ
12 Ⓐ Ⓑ Ⓒ Ⓓ
13 Ⓐ Ⓑ Ⓒ Ⓓ
14 Ⓐ Ⓑ Ⓒ Ⓓ
15 Ⓐ Ⓑ Ⓒ Ⓓ
16 Ⓐ Ⓑ Ⓒ Ⓓ
17 Ⓐ Ⓑ Ⓒ Ⓓ

Key and Descriptors for Practice Questions

Ques. No.	Key	Program Strand*	Reporting Category**	Curriculum Standard
1	A	OP	S	Determine appropriate operations and compute
2	B	OP	K	Subtract 3-digit numbers
3	A	OP	S	Estimate sum of three 3-digit numbers
4	B	OP	K	Divide a decimal number by a 2-digit divisor
5	B	OP	S	Determine a strategy to solve a complex problem
6	C	OP	S	Apply understanding of average and solve a multistep problem
7	C	D	S	Interpret a chart to determine the meaning of a number sentence
8	C	G	K	Classify lines as intersecting
9	D	N	S	Order fractions with different denominators and find largest
10	B	N	S	Determine maximum number of combinations possible
11	B	N	S	Apply understanding of odd and even numbers to solve a novel problem
12	B	M	S	Express value of a collection of coins in dollar form
13	C	M	S	Determine a strategy to partition the volume of a prism
14	A	N	K	Identify the digit with the given place value
15	B	OP	S	Determine average
16	A	D	S	Interpret a tally chart
17	A	D	S	Infer meaning of omissions on the tally chart

* G—Geometry, M—Measurement, N—Numeration, OP—Operations and Properties, D—Data Management
** K—Knowledge, S—Skills

Preparing Students for the Assessment

We hope that teachers will share the following information with their students to help them prepare for the Grade 6 Mathematics Achievement Test.

Suggestions for Answering Multiple-Choice Questions

The following comments are provided to help prepare students for the Grade 6 Mathematics multiple-choice questions.

- The questions in the assessment are *integrated into narrative themes.*

- *Use the information given* by:

  —looking at all the information and thinking carefully about it before you try to answer the questions **OR**

  —reading the questions first and then looking at the information,remembering the questions you need to answer

- When you are given information for more than one question, remember to *go back to the information before answering each question.*

- *Make sure you look at all forms of the information given.* Information may be given in words, charts, pictures, graphs, and maps.

- *Check your work when you calculate an answer,* even when your answer is one of the choices.

- When answering questions, *choose the answer you think is best.* If you don't see a correct or best answer right away, try to find the two choices that seem closest to the correct answer and pick one of them for the answer.

Alberta Education Contact

Questions or comments regarding this
bulletin should be directed to:

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If questions arise about the grading and
analysis, contact the director of the

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